REMARKS

Claims 1-7 are pending in the application. In the Final Office Action of June 23, 2003, the Examiner made the following disposition:

A.) Rejected claims 1 and 5 under 35 U.S.C. §103(a) as being unpatentable over *Sekine et al.* in view of *Miyakawa*.

B.) Rejected claims 3 and 4 under 35 U.S.C. §103(a) as being unpatentable over *Sekine et al.* in view of *Miyakawa* and further in view of *Ishihara*.

C.) Rejected claims 6 and 7 under 35 U.S.C. §103(a) as being unpatentable over *Sekine et al.* in view of *Miyakawa* and further in view of *Tabita*.

D.) Rejected claim 2 under 35 U.S.C. §103(a) as being unpatentable over *Sekine et al.* in view of *Miyakawa* and further in view of *Ishihara* and *Tabata et al.*

Applicant respectfully traverses the rejection and addresses the rejections as follows:

A.) Rejection of claims 1 and 5 under 35 U.S.C. §103(a) as being unpatentable over *Sekine et al.* in view of *Miyakawa*:

Applicant respectfully disagrees with the rejection.

Referring to Applicant' s Figure 1 for illustrative purposes, Applicant' s independent claim 1 as amended claims a three-dimensional image-capturing apparatus comprising a single solid-state image-sensing device 1 having a plurality of image capturing regions 1a, 1b. Each image capture region simultaneously captures a different image on the single solid-state image-sensing device. A plurality of optical systems are for forming images of a subject in the image-capturing regions. Each one of the optical systems corresponds to a different one of the image-capturing regions 1a, 1b. The optical systems include a plurality of reflection means 5a, 6a, 5b, 6b for reflecting rays from the subject a number of times. At least a lens 3a, 3b is provided to be closer to the single solid-state image-sensing device 1 than the closest reflection means 6a, 6b to the subject among the reflection means 5a, 6a, 5b, 6b. The reflection means 5a, 6a, 5b, 6b and the lenses 3a, 3b of the optical systems are used to form, in the corresponding image-capturing regions 1a, 1b, separate and different images of the subject which are captured from different viewpoints having a distance therebetween.

Therefore, claim 1 claims a three-dimensional image-capturing apparatus that has a single solid-state image-sensing device having a plurality of image-capturing regions, which each capture a different image. A different optical system is associated with each image-capturing region to beneficially provide a three-dimensional image. This provides a beneficial economic

improvement over conventional devices that require two cameras or two image-sensing devices, since claim 1 captures different images of a subject from different viewpoints on one image-sensing device.

This is clearly unlike *Sekine et al.* in view of *Miyakawa*, neither of which teaches simultaneously capturing two or more images on one image-sensing device. As acknowledged by the Examiner, *Sekine et al.* fails to disclose a single solid-state image-sensing device with a plurality of image-capturing regions. Instead, *Sekine et al.* discloses two CCD devices 121, 122 each with one image capturing region. Therefore, the Examiner combines *Sekine et al.* with *Miyakawa*, however, Applicant respectfully submits that *Sekine et al.* in view of *Miyakawa* still fails to disclose or suggest claim 1.

Miyakawa discloses a single camera 40 with one image-capturing region. As clearly shown in *Miyakawa* Figure 1, *Miyakawa* merges two different optical paths at mirror 25 before they reach the camera 40. Using shutters 24 and 27, only one of the optical paths is projected at a time through the mirror 25 and into the camera 40. Thus, as clearly shown, optical path 1 is projected onto the camera' s 40 image-capturing region and then optical path 2 is projected onto the camera' s 40 same image-capturing region. Unlike Applicant' s claim 1, nowhere does *Miyakawa* disclose or suggest a plurality of image-capturing regions associated with different optical paths.

The Examiner argues that *Miyakawa* discloses a plurality of image-capturing regions, however, Applicant strongly disagrees. *Miyakawa* discloses a first optical path projecting into a camera 40 and then a second optical path projecting into the camera 40 along the same optical path as the first optical path. This disclosure in *Miyakawa* does not disclose or suggest multiple image-capturing regions within the camera. Both optical paths enter the camera 40 along the same optical path, the optical paths are merely alternated so that only one projects into the camera 40 at a time. Since both optical paths project into the camera along the same optical path (as clearly shown in Figure 1), they strike the image-capture region at the same location. Respectfully, Applicant fails to see how that disclosure in *Miyakawa* could possibly correlate to *Miyakawa* disclosing or suggesting a plurality of image-capture regions. For *Miyakawa* to disclose multiple image-capture regions that individually receive a different optical path, the camera 40 would have to move since *Miyakawa's* two beams follow the same optical path into the camera 40. But that does not happen in *Miyakawa*.

Therefore, Applicant respectfully disagrees with the Examiner's interpretation of *Miyakawa*. Further, Applicant respectfully submits that the Examiner has used improper

hindsight to argue that the combined references disclose or suggest claim 1. *Sekine et al.* discloses two CCD devices each with one image-capturing region. And *Miyakawa* discloses one CCD device with one image-capturing region. It would not have been obvious to one having skill in the art to combine *Sekine et al.'s* two CCD cameras (with one image-capturing region) with *Miyakawa's* one CCD camera (with one image-capturing region) to arrive at Applicant' s one device having a plurality of image-capturing regions.

Therefore, for at least this reason *Sekine et al.* in view of *Miyakawa* fails to disclose or suggest claim 1.

Further, Applicant respectfully submits that there would have been no motivation to combine *Sekine et al.* with *Miyakawa*. Referring to *Sekine et al.* Figure 1, *Sekine et al.'s* system discloses two light beams that are orthogonal to each other in the optical unit 120. Using *Sekine et al.'s* optical system, it would not be possible to transmit *Sekine et al.'s* two orthogonal light beams onto *Miyakawa's* single camera 40. In fact, *Miyakawa* purposefully alternates its two optical paths through its mirror 25 so that its optical paths are not orthogonal. Thus, it would not be possible to use *Sekine et al.'s* system with *Miyakawa's* camera to provide a three-dimensional image.

Accordingly, *Sekine et al.* in view of *Miyakawa* fails to disclose or suggest claim 1.

Claim 5 depends directly or indirectly from claim 1 and is therefore allowable for at least the same reasons that claim 1 is allowable.

Applicant respectfully submits the rejection has been overcome and requests that it be withdrawn.

B.) Rejection of claims 3 and 4 under 35 U.S.C. §103(a) as being unpatentable over *Sekine et al.* in view of *Miyakawa* and further in view of *Ishihara*:

Applicant respectfully disagrees with the rejection.

Independent claim 1 is allowable over *Sekine et al.* in view of *Miyakawa* as discussed above. *Ishihara* still fails to disclose or suggest a single solid-state image-sensing device having a plurality of image-capturing regions, wherein a different optical system is associated with each image-capturing region.

Therefore, *Sekine et al.* in view of *Miyakawa* and further in view of *Ishihara* fails to disclose or suggest claim 1.

Claims 3 and 4 depend from claim 1 and are therefore allowable for at least the same reasons that claim 1 is allowable.

Applicant respectfully submits the rejection has been overcome and requests that it be withdrawn.

C.) Rejection of claims 6 and 7 under 35 U.S.C. §103(a) as being unpatentable over *Sekine et al.* in view of *Miyakawa* and further in view of *Tabita*:

Applicant respectfully disagrees with the rejection.

Regarding claim 6:

Independent claim 1 is allowable over *Sekine et al.* in view of *Miyakawa* as discussed above. *Tabita* still fails to disclose or suggest a single solid-state image-sensing device having a plurality of image-capturing regions, wherein a different optical system is associated with each image-capturing region.

Therefore, *Sekine et al.* in view of *Miyakawa* and further in view of *Tabita* fails to disclose or suggest claim 1.

Claim 6 depends from claim 1 and is therefore allowable for at least the same reasons that claim 1 is allowable.

Regarding claim 7:

Similar to claim 1, claim 7 as amended claims a single solid-state image-sensing device having a plurality of image-capturing regions, each image capture region simultaneously captures a different image on the single solid-state image-sensing device. A different optical system is associated with each image-capturing region to beneficially provide a three-dimensional image.

As described above with reference to claims 1 and 6, *Sekine et al.* in view of *Miyakawa* and further in view of *Tabita* fails to disclose or suggest this claimed subject matter. Therefore, *Sekine et al.* in view of *Miyakawa* and further in view of *Tabita* fails to disclose claim 7 for at least the same reasons that the combined reference fail to disclose or suggest claim 1.

Applicant respectfully submits the rejection has been overcome and requests that it be withdrawn.

D.) Rejection of claim 2 under 35 U.S.C. §103(a) as being unpatentable over *Sekine et al.* in view of *Miyakawa* and further in view of *Ishihara* and *Tabata et al.*:

Applicant respectfully disagrees with the rejection.

Similar to claims 1 and 7, claim 2 as amended claims a single solid-state image-sensing device having a plurality of image-capturing regions, each image capture region simultaneously captures a different image on the single solid-state image-sensing device. A different optical system is associated with each image-capturing region to beneficially provide a three-dimensional image.

As described above with reference to claims 1 and 7, *Sekine et al.* in view of *Miyakawa* and further in view of *Tabita* and *Ishihara* fails to disclose or suggest this claimed subject matter. Therefore, *Sekine et al.* in view of *Miyakawa* and further in view of *Tabita* and *Ishihara* fails to disclose claim 2 for at least the same reasons that the combined reference fail to disclose or suggest claim 1.

Applicant respectfully submits the rejection has been overcome and requests that it be withdrawn.

CONCLUSION

In view of the foregoing, it is submitted that claims 1-7 are patentable. It is therefore submitted that the application is in condition for allowance. Notice to that effect is respectfully requested.

Respectfully submitted,

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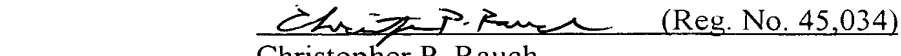 (Reg. No. 45,034)

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